

Application Serial No. 09/828,358
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Claim 62. A feed metering device for providing feed in measured portions to an animal which comprises a feed unit for containing said feed, an entrance opening to said feed unit, a feed supplying device for providing feed to said feed unit, weighing means for weighing the feed in said feed unit, said feed unit being connected to said feed supplying device by angular displacement means which comprise at least part of said weighing means, and an animal identification device for recognizing a particular animal that proceeds to said feed unit.

Claim 63. A feed metering device in accordance with Claim 62, wherein said animal identification device provides data to said feed supplying device, said feed supplying device supplying an amount of feed to said feed unit based on data from said animal identification device.

Claim 64. A feed metering device in accordance with Claim 63, wherein said weighing means provides data to said feed supplying device, the amount of feed provided by said feed supplying device to said feed unit being based on data both from said animal identification device and said weighing means.

Claim 65. A feed metering device for providing feed in measured proportions to an animal which comprises a feed unit for containing said feed, an entrance opening to said feed unit, a feed supplying device for providing feed to said unit, and weighing means for weighing the feed in said feed unit, said feed unit being connected to said feed supplying device by angular displacement means which comprise at least in part said weighing means, said angular displacement means comprising a measuring roll which is in contact with said feed unit.

Claim 66. A feed metering device for providing feed in measured portions to an animal which comprises a feed unit for containing said feed, an entrance opening to said feed unit, a feed supplying device for providing feed to said feed unit, a safety supporting bracket for said feed unit, and weighing means for weighing the feed in said feed unit, said feed unit being connected to said feed supplying device by angular displacement means which comprise at least in part said weighing means.

Claim 67. A feed metering device for providing feed in measured portions to an animal which comprises a feed unit for containing said feed, an entrance opening to said feed unit, a feed supplying device for providing feed to said feed unit, weighing means for weighing the feed in said feed unit, said feed unit being connected to said feed supplying device by angular displacement means which comprise at least in part said weighing means, and animal identification means for identifying an animal to be deterred from appearing at said feed unit and taking feed therefrom, the feed metering device further comprising deterring means for deterring animal that appears at said feed unit from taking feed therefrom.

Claim 69. A feed metering device for providing feed in measured portions to an animal which comprises a feed unit for containing said feed, an entrance opening to said feed unit, a feed supplying device for providing feed to said feed unit, weighing means for weighing the feed in said feed unit, said feed unit being connected to said feed supplying device by angular displacement means which comprise at least in part said weighing means, and an animal identification device and deterring means for deterring an animal from taking feed from said feed unit, said deterring means being at least partially integrated with said animal identification device.

Claim 70. A feed metering device in accordance with Claim 69, wherein said deterring means comprises a loudspeaker that produces an animal-frightening sound.

Claim 71. A feed metering device in accordance with Claim 69, wherein said deterring means comprises a lighting device that emits an animal-frightening light.

Claim 72. A feed metering device in accordance with Claim 62, wherein said feed unit bears on said animal identification device by means of a roll.

Claim 73. A feed metering device for providing feed in measured portions to an animal which comprises a feed unit for containing said feed, an entrance opening to said feed unit, a feed supplying device for providing feed to said feed unit, weighing means for weighing the feed in said feed unit, said feed unit being connected to said feed supplying device by angular displacement means which comprise at least in part said weighing means, and an animal identification device which is disposed in a vicinity below said entrance opening.

Claim 74. A feed metering device for providing feed in measured portions to an animal which comprises a feed unit for containing said feed, an entrance opening to said feed unit, a feed supplying device for providing feed to said feed unit, weighing means for weighing the feed in said feed unit, said feed unit being connected to said feed supplying device by angular displacement means which comprise at least in part said weighing means, and deterring means for deterring an animal from taking feed from said feed unit, said deterring means being at least partly integrated in said weighing means.

Claim 75. A feed metering device for providing feed in measured portions to an animal which comprises a feed unit for containing said feed, an entrance opening to said feed unit, a feed supplying device for providing feed to said feed unit, and weighing means for measuring the weight of feed which is contained in said feed unit, said feed unit being connected to said feed

supplying device by angular displacement means which comprises at least in part said weighing means.

Claim 76. A feed metering device in accordance with Claim 75, which further comprises an animal identification device for recognizing a particular animal that proceeds to said feed unit.

Claim 77. A feed metering device in accordance with Claim 76, wherein said animal identification device provides data to said feed supplying device, said feed supplying device supplying an amount of feed to said feed unit based on data from said animal identification device.

Claim 78. A feed metering device in accordance with Claim 77, wherein said weighing means provides data to said feed supplying device, the amount of feed provided from said feed supplying device to said feed unit being based on data both from said animal identification device and said weighing means.

Claim 79. A feed metering device in accordance with Claim 75, wherein said weighing means includes said feed unit which is pivotal about a hinge pin and a device for determining the degree of angular displacement of said angular displacement means and, based on said degree as so determined, the weight of feed present in said feed unit.

Claim 80. A feed metering device in accordance with Claim 79, wherein said device for determining the degree of angular displacement of said angular displacement means is integrated with an animal identification device.

Claim 81. A feed metering device in accordance with Claim 75, wherein said angular displacement means comprises a measuring roll which is in contact with said feed unit.

Claim 82. A feed metering device in accordance with Claim 75, which further comprises a load sensor, said load sensor being operatively connected to said angular displacement means, said feed unit bearing on said load sensor.

Claim 83. A feed metering device in accordance with Claim 82, which comprises an animal identification device, said load sensor being included in said animal identification device.

Claim 84. A feed metering device in accordance with Claim 75, wherein said weighing means comprises a hinge pin, a measuring roll and a load sensor which are located in close proximity to each other.

Claim 85. A feed metering device in accordance with Claim 75, which further comprises a safety supporting bracket for said feed unit.

Claim 86. A feed metering device in accordance with Claim 75, wherein said feed unit is movable, said weighing means comprising said movable feed unit, a motor for moving said feed unit and for measuring the magnitude of torque during movement of said feed unit, said motor including means for deducing from the magnitude said torque as so measured the weight of the feed in said feed unit.

Claim 87. A feed metering device in accordance with Claim 75, comprising an animal identification device, data as to the weight of feed in said feed unit being integrated in said animal identification device.

Claim 88. A feed metering device in accordance with Claim 75, wherein said weighing means comprises a motor and a torque roll, said motor moving said feed unit and driving said torque roll, said torque roll being in contact with said feed unit.

Claim 89. A feed metering device in accordance with Claim 75, which comprises animal identification means for identifying an animal to be deterred from appearing at said feed unit and

taking feed therefrom, the feed metering device further comprising deterring means for deterring an animal that appears at said feed unit from taking feed therefrom.

Claim 90. A feed metering device in accordance with Claim 89, wherein said deterring means receives data from said animal identification device for deterring selected animals identified by said animal identification device from taking feed from said feed unit.

Claim 91. A feed metering device in accordance with Claim 75, which comprises an animal identification device and deterring means for deterring an animal from taking feed from said feed unit, said deterring means being at least partially integrated with said animal identification device.

Claim 92. A feed metering device in accordance with Claim 91, wherein said deterring means comprises a loudspeaker that produces an animal-frightening sound.

Claim 93. A feed metering device in accordance with Claim 91, wherein said deterring means comprises a lighting device that emits an animal-frightening light.

Claim 94. A feed metering device in accordance with Claim 91, wherein said deterring means comprises an electrical current emitting device that emits an animal-frightening electrical current.

Claim 95. A feed metering device in accordance with Claim 91, wherein said deterring means includes a closing means, said closing means being movable to close said entrance opening to said feed unit.

Claim 96. A feed metering device in accordance with Claim 91, wherein said feed unit comprises a movable closing means which closes said entrance opening to said feed unit.

Claim 97. A feed metering device in accordance with Claim 75, wherein said feed unit comprises a wall portion for catching feed in said feed unit.

Claim 98. A feed metering device in accordance with Claim 75, which comprises an animal identification device for identifying animals that proceed to the feed metering device, closing means for said feed unit, a motor driving said closing means, said motor being controlled on the basis of data from said animal identification device.

Claim 99. A feed metering device in accordance with Claim 98, comprising a roll which contacts said closing means, said motor driving said roll.

Claim 100. A feed metering device in accordance with Claim 99, wherein said animal identification device includes said motor and said roll.

Claim 101. A feed metering device in accordance with Claim 100, wherein said feed unit bears on said animal identification device by means of said roll.

Claim 102. A feed metering device in accordance with Claim 75, which comprises closing means for closing said entrance opening to said feed unit and a roll for moving said closing means, said roll also measuring torque applied to said feed unit due to the weight of the food in said feed unit.

Claim 103. A feed metering device in accordance with Claim 75, which further comprises an animal identification device which is disposed in a vicinity below said entrance opening.

Claim 104. A feed metering device in accordance with Claim 75, comprising deterring means for deterring an animal from taking feed from said feed unit, said deterring means being at least partly integrated in said weighing means.

Claim 105. A feed metering device for providing feed in measured portions to an animal which comprises a feed unit for containing said feed, an entrance opening to said feed unit, a closing member for closing said feed unit, a feed supplying device for providing feed to said feed

unit, weighing means for weighing the feed in said feed unit, said weighing means comprising a roll which is in contact with said feed unit, said roll providing data concerning the amount of feed in said feed unit, an animal identification means for identifying animals that go to said feed unit, said animal identification means selectively opening and closing said closing means for selected animals that appear at said feed unit to take feed therefrom depending on the then current nutritional status of said animal.

Claim 106. A feed metering device in accordance with Claim 67, wherein said deterring means receives data from said animal identification means for deterring selected animals identified by said animal identification device from taking feed from said feed unit.